

**REMARKS****I. Status of the Claims**

Claims 1, 2, 4-8 and 10-15 are pending in this application, the independent claims being claims 1, 6, 7 and 12.

**II. Summary of the Official Action**

In the Official Action, claims 1, 2, 4-8 and 10-15 were rejected under 35 U.S.C. §103(a), as unpatentable over U.S. Patent No. 5,799,319 (Atkins) in view of U.S. Patent No. 6,226,392 (Bacus).

Reconsideration and withdrawal of the rejection respectfully are requested in view of the following remarks.

**III. Claimed Invention**

The rejection of the claims over the cited art respectfully is traversed.

The present invention relates to a novel file management apparatus for microscopes and computer readable recording media storing a file management program to control a computer. In each aspect (see independent claims 1, 6, 7 and 12), the claimed invention relates to the features of file name structure setting section or step and a file name generating section or step. In the file name structure setting section/step, a user interface display screen is used to permit a user to input arbitrary file name structure information; in the file name generating section/step, a *file name* automatically is generated using the file name structure information set in advance by the user, for each microscope image data acquired after the file name structure information is set. In this manner, the user can choose, in advance, which image related information will be retrieved and included in the file name for each microscope image data file, at the time the image data is later acquired. Moreover, in another aspect, the user can change the file name structure information, and the newly set structure information will be used for all image data acquired thereafter, for example, previously stored microscope

image data later acquired from storage is renamed using a virtual file name created when the stored image data is acquired. As discussed in greater detail in the present application, these features of the claimed invention provide a significant improvement over prior art systems and methods in that the file names can be selectively created by the user to include information important to the user, and the data files may be managed by simply using their file names, which are created to include the information pertinent to the user.

Applicants have submitted herewith a product brochure (Digital Eclipse - DXM 1200) and software instruction manual (Nikon, Digital Still Camera DXM 1200 for Microscope) that illustrate a commercial embodiment of the claimed invention for the Examiner's consideration.

#### **IV. Prior Art Distinguished**

Applicants submit that the prior art fails to anticipate the claimed invention. Moreover, Applicants submit that there are differences between the subject matter sought to be patented and the prior art, such that the subject matter taken as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made.

The Atkins '319 patent relates to a method for naming computer files, and includes a method having a computer screen display at a terminal of a computer for a user to input data relating to the image data file. However, Applicants submit that the Atkins '319 patent fails to disclose or suggest at least the above-discussed features of the claimed invention. Rather, Applicants submit that the Atkins '319 patent merely discloses that such information is stored in the *image file* - not in the *file name* itself, where a set of (plurality of) subsequently acquired image data is stored together with one submission number, and where each image data file is identified by the submission number and a sequential image number - e.g., 12345-01, 12345-02, 12345-03, et. seq. (see column 2, lines 5-14 and 37-42). Nowhere is the Atkins '319 patent understood to disclose or suggest the claimed features of a file name

structure information section/step and a name generation section/step that automatically retrieves file information in accordance with a set file name structure information, at the time the image data is acquired, as disclosed in the present application and recited in claims 1, 6, 7 and 12.

The Bacus '392 patent relates to a method and apparatus for acquiring and reconstructing magnified specimen images from a computer-controlled microscope, and was cited for its alleged disclosure of stored microscope image data. Applicants submit that the Bacus '392 patent fails to disclose or suggest at least the above-discussed features of the claimed invention, and fails to add anything to the Atkins' 319 patent that would make obvious the claimed invention.

For the above reasons, Applicants submit that claims 1, 6, 7 and 12 are allowable over the cited art.

Claims 2, 4, 5, 8, 10, 11 and 13-15 depend from claims 1, 6, 7 and 12, and are believed allowable for the same reasons. Moreover, each of these dependent claims recited additional features in combination with the features of its respective base claim and is believed allowable in its own right. Individual consideration of the dependent claims respectfully is requested.

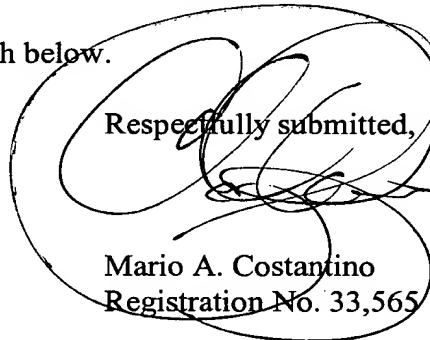
**V. Entry Under 37 C.F.R. §1.116**

Entry of this response is proper under 37 CFR §1.116 since the response: (a) does not raise any new issue requiring further search and/or consideration since the remarks amplify issues previously discussed throughout prosecution; (b) does not present any additional claims without canceling a corresponding number of finally rejected claims; and (c) places the application in better form for appeal, should an appeal be necessary. The response is deemed necessary and was not earlier presented because it is made in response to arguments raised in the final rejection. Entry of the response thus respectfully is requested.

**VI. Conclusion**

Applicants believe that the present Request for Reconsideration is responsive to each of the points raised by the Examiner in the Official Action, and submit that the application is in condition for allowance. Favorable consideration of this Request and the claims, and passage to issue of the application at the Examiner's earliest convenience earnestly are solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,  
  
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Registration No. 33,565

Christopher Philip Wrist  
Registration No. 32,078

MAC:CPW/eks

**Attachments:**

DIGITAL ECLIPSE - DXM 1200 brochure

Nikon - Digital Still Camera DXM 1200 for Microscope Software Illustration Manual

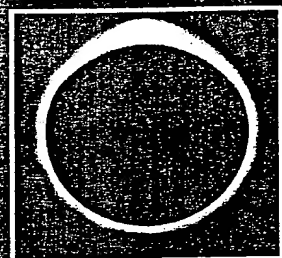
Date: September 15, 2005

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**Nikon**

Digital Camera Series



**DIGITAL ECLIPSE**  
**PXM1200**

**Ultrahigh-quality Digital Camera for Photomicrographic Use**

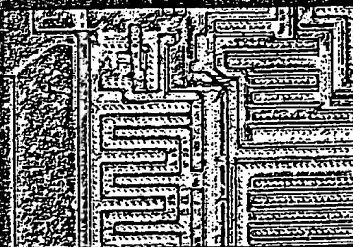
**Super-performance 3X Zoom Digital Camera**

**COOLPIX 990/950**

**Digital SLR Camera D1**

# Mounting the Digital Eclipse series to your microscope to begin photomicrography in the digital format

Nikon, known for its excellence in cameras and microscopes, proudly introduces the DXM1200, a ground-breaking digital camera that will literally redefine digital photomicrography. The DXM1200 is designed to meet the demanding needs of professional users who must take a large number of photomicrographs with sufficiently high image quality and then store them efficiently. The DXM1200 produces true-to-life, extremely high-quality images with up to approximately 12 million output pixels and features a low-noise design that even enables capturing of fluorescence images clearly. The camera's software can be set up to categorize the images taken, sort them and save them, all automatically, eliminating the strain caused by long hours of complicated operation and keyboard typing. The DXM1200. The clear choice of professionals.





# Microscope is all you need that

**The DXM1200: The first digital camera for photomicrography that satisfies the needs of demanding professionals.**

**Sparkling digital images even better than those taken by film-based cameras.**

Ultrahigh picture quality in the digital format is now a reality, due to Nikon's new IPS (Inter Pixel Stepping) high-density imaging technology. The result: breathtaking images composed of up to approximately 12 million (3,840 x 3,072) output pixels\* that rival conventional film-based, silver-halide images or even surpass them for enlargement purposes.

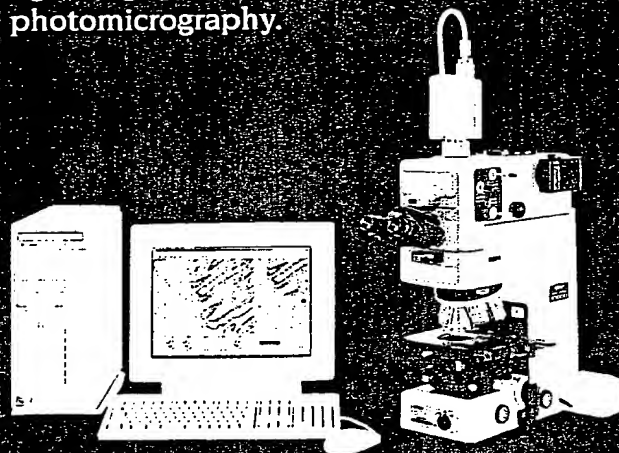
\* The total number of pixels in the CCD is 1.4 million.

**Low-noise design allows clear, low-light image capture**

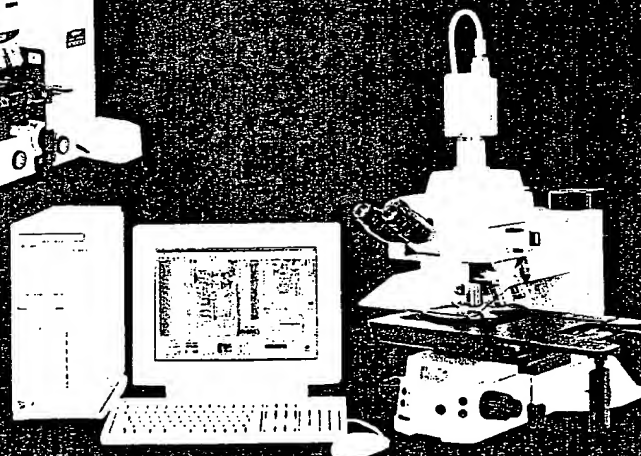
Nikon's high S/N digital-circuit technology enables image capture with exceptionally high sensitivity, resulting in images of excellent clarity that are almost identical to those taken by an ambient temperature cooled CCD camera. Sensitivity (gain) is settable in three levels and long exposure times can also be used.

**High-speed data transfer**

Images captured by the camera can be transferred to your computer at lightning speed (12 frames/sec. max.), setting a new standard in digital photomicrography.



Configured with automated biological microscope E1000



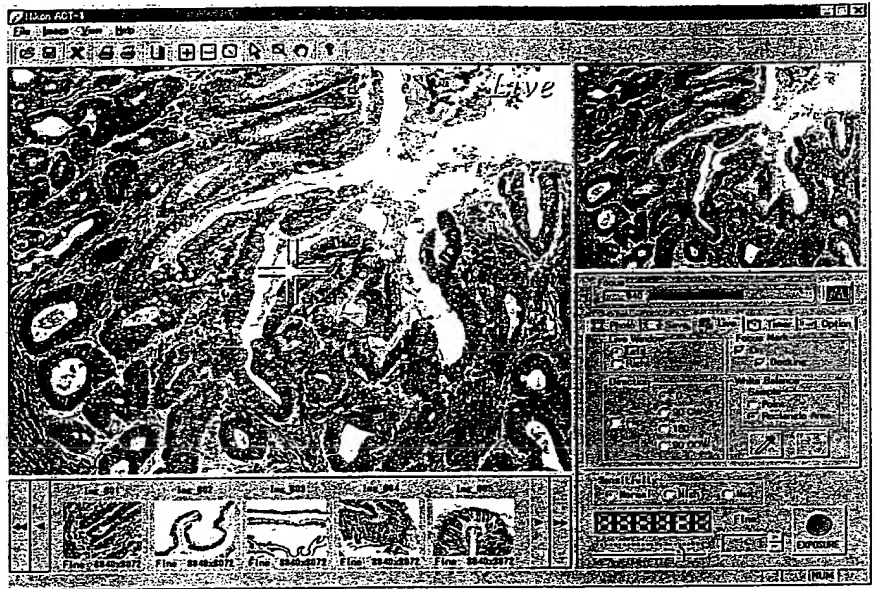
Configured with IC inspection microscope L200

\*The monitor images are simulated.

# High performance software

## Strain-free operation during long hours of photomicrographic operation:

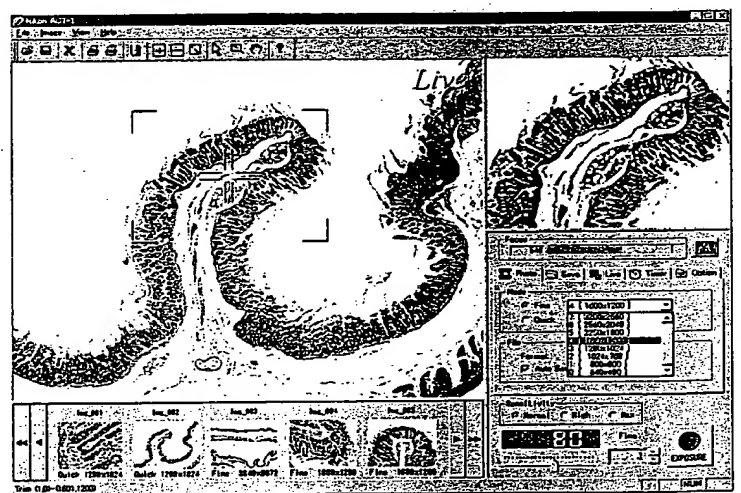
- Preview of the image in live, still image, and thumbnail format, in addition to the shooting conditions are displayed on a single screen, making photomicrography a simple matter.  
All of these display areas or windows are not affected by the operation of the mouse. This makes it unnecessary to constantly check their size or position, allowing you to concentrate on photomicrography while reducing fatigue.
- Transposition of the live and still image frame areas can be made by switching between the larger or small frames on the screen. You can make exposures while monitoring high-quality live images (12 frames/sec.) in the larger frame.
- All exposure settings are clearly organized in a small area on the screen, maximizing the space for image display. This area is always available and never hiding behind an image frame.



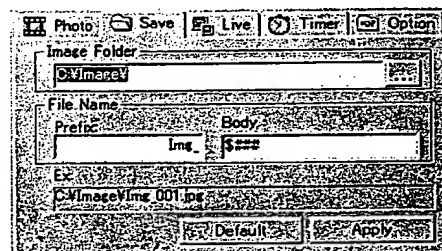
ATC-1 software screen

## Advanced, versatile, yet easy to use

- To photograph the required area within a specimen field with the highest possible definition, while using a minimal amount of data space, you can select the Fine or Quick mode. Uniformity of the photomicrograph's size and aspect ratio is secured, thanks to the frame selection feature. This feature is helpful when making a large number of exposures. It also eliminates wasteful white spaces when images are printed out.
- If you enter save and print formats prior to your shooting job, then once you press the exposure button, the camera's software will categorize the images taken, sort and save them, all automatically. This is a feature highly welcomed by professionals who take many photomicrographs. If desired, printing of the image each time you press the exposure button is also possible.



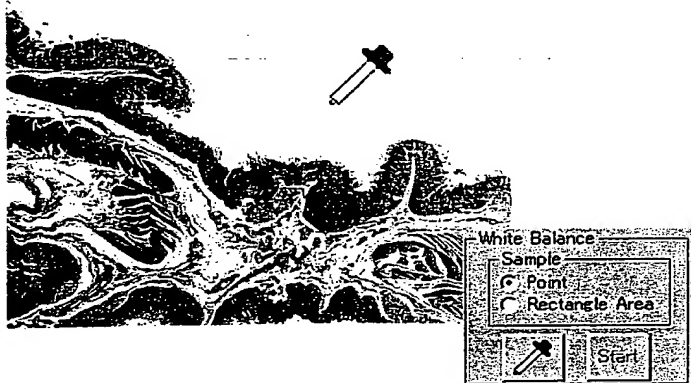
Frame selection screen



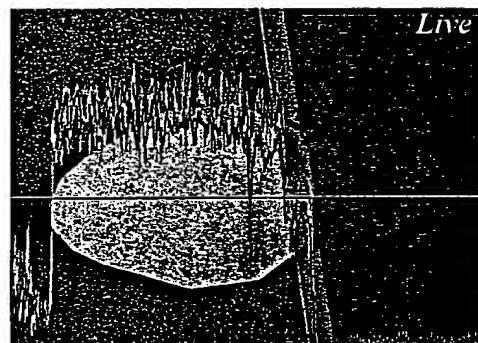
Save format setting dialog box



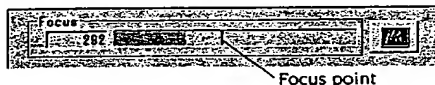
- White balance is preset by selecting a point or rectangle.



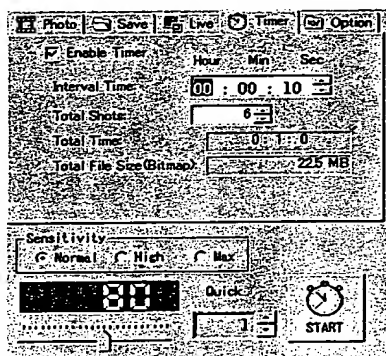
- RGB color levels are displayed in real time and can be adjusted individually. Intensity profile by color is also provided to facilitate optimizing the dynamic range of the image.



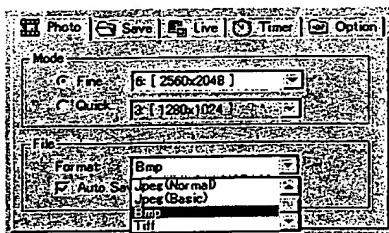
- A focus indicator on the screen facilitates easy focusing of a point or area within the specimen, indicating deviation from the focus point in real time.



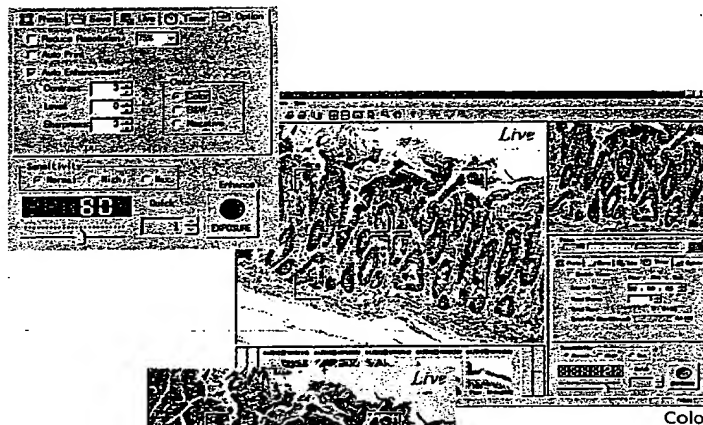
- Automatic sequential shooting at intervals from 5 seconds to approx. 100 hours (time lapse).



- Data saving in standard TIFF format (uncompressed), JPEG (3-types of compression), or the standard BMP format.



- Color/B&W changeover, Edge enhancement, Contrast enhancement, Horizontal reverse, Vertical reverse, 90 degree rotation, Negative/positive reversal, Enlarge/Reduce image size.
- Brightness, gamma, and contrast adjustment can easily be made or applied to images as they are acquired.



Color

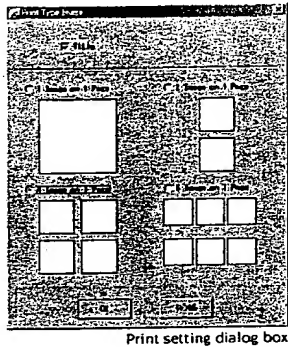


B&W

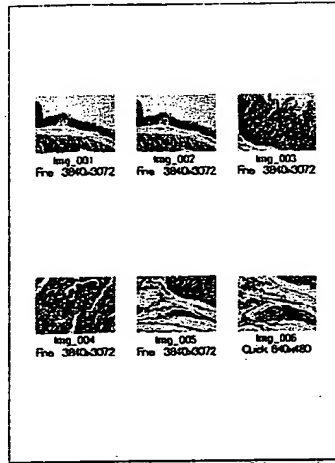
Negative

- Images can be printed in full size or Tiled (up to 6 images per sheet).

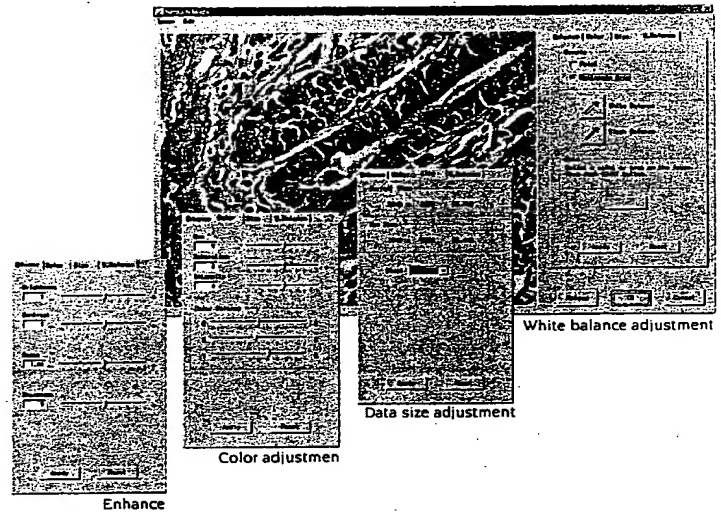
- Retouch function is available.



Print setting dialog box



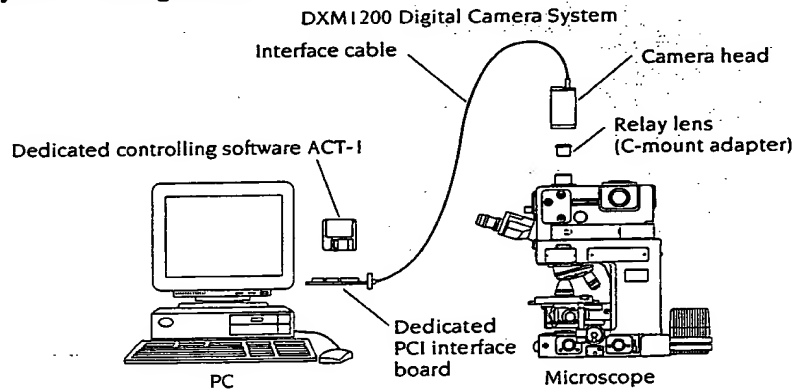
Print preview



## Single cable connection

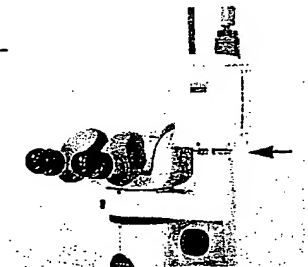
Connection between the camera head and a PC is provided via a single cable, eliminating troublesome wiring procedures and also providing power to the camera.

### System Configuration



## New low-profile, wide-field 0.63X C-mount lens

Nikon has developed a new wide-field relay lens to provide increased brightness for photomicrography. Since this lens is of a low-gravity (short) design, it is less affected by vibrations when the camera is mounted on a microscope. (Available as an option)



## Tripod socket

The camera is provided with a tripod socket for convenient mounting on a macro stand or other possible uses.

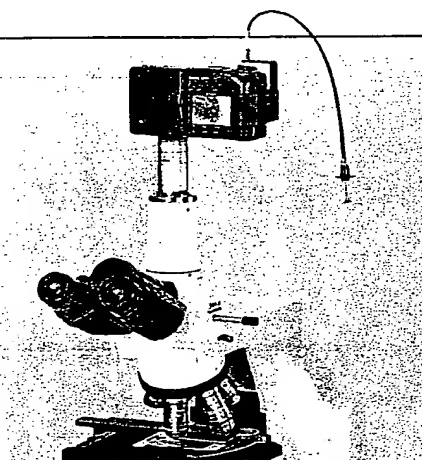
# Other Models in the Digital Eclipse Series

As a leading name in digital cameras, besides the DXM1200, Nikon has two other models in its digital-imaging photomicrography family available at regular camera stores.

## Nikon COOLPIX990/950 Super-performance 3X zoom digital camera

Featuring a high-performance CCD and performance-proven Nikkor lens, the COOLPIX990 and 950 record photomicrographic images in digital format with ultrahigh-image quality. These cameras are useful for building an image data base or transferring images easily over the Internet. The COOLPIX990 has a 3.34 megapixel 1/1.8-in. CCD and produces ultrahigh-quality 2,048 x 1,536-pixel images, while the COOLPIX950 has a 2.11-megapixel 1/2-in. CCD and produces 1,600 x 1,200-pixel images.

- 3X Zoom Nikkor lens.
- Program, Shutter-Priority and Aperture-Priority Auto exposure control modes. (Model 990 also includes Manual and Auto Bracketing)
- Programmable or Preset Manual White Balance for optimum color reproduction.
- Auto and manual Gain control is available for low-light shooting.
- Image brightness and contrast can be compensated in five modes.
- High-resolution, low-temperature, polysilicon swiveling TFT LCD monitor.
- Auto File Numbering prevents doubling of numbers assigned to images.
- Model 990 comes with MC-EUI remote cord connecting to USB terminal.(Option)



COOLPIX950

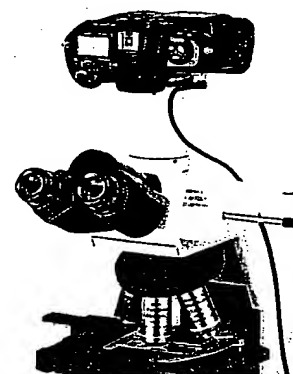
	COOLPIX990	COOLPIX950
CCD	1/1.8-in. high-density CCD; total number of pixels: 3.34 million	1/2-in. high-density CCD; total number of pixels: 2.11 million
Image size	2,048 x 1,536 pixels; XGA-size (1,024 x 768), VGA-size (640 x 480), 3: 2 (2,048 x 1,360) selectable	1,600 x 1,200 pixels; XGA-size (1,024 x 768), VGA-size (640 x 480) selectable
Lens	3x Zoom-Nikkor lens (35mm format equivalent to 38-115 mm)	
Zoom range	0.33-0.93X (when configured with a microscope)	0.29-0.82X (when configured with a microscope)
Interface	USB interface or serial interface (selectable)	Serial interface
Video output	NTSC or PAL (selectable)	Available in NTSC or PAL version
I/O terminal	Power input; Video output; Digital output terminal; Sync terminal for external Nikon Speedlight	Power input; Video output; High-speed serial terminal; Sync terminal for external Nikon Speedlight
Dimensions	149 (W) x 79 (H) x 38 (D) mm (5.9 x 3.1 x 1.5 in.)	143 (W) x 76.5 (H) x 36.5 (D) mm (5.6 x 3.0 x 1.4 in.)
Weight (without battery)	Approx. 390g (13.8 oz.)	Approx. 350g (12.3 oz.)
Included in the package	Digital camera main body; Microscope adapter (MD-C relay lens); Dedicated shutter-release adapter; Shutter release; Video cable; 16MB (990) or 8MB (950); CompactFlash™ card; PK-SC2 PC connection kit; AC adapter; PC card adapter; Photomicrography guidebook; Operation manual	

## Nikon Digital SLR camera D1

The Digital SLR Camera D1 is another choice for your digital photomicrography. The D1 uses a 2.74-megapixel, 23.7 x 15.6mm large-sized CCD for ultrahigh, 2,012 x 1,312 effective-pixels images. The D1 uses the same famous F-mount Nikkor lenses from the film camera line. Custom Setting #5 Anti-vibration mode delays exposure until mirror shock has subsided.

### Digital SLR Camera D1

CCD	23.7 x 15.6 mm RGB CCD; total number of pixels: 2.74 million
Image size	2,000 x 1,312 pixels;
Video output	NTSC or PAL (switchable)
Interface	IEEE1394, 10-pin remote terminal
Usable lenses	1) D-type AF Nikkor: All functions possible 2) D-type Nikkor other than AF: All functions except autofocus possible 3) AF Nikkor other than D-type: All functions except 3D Color Matrix Metering and 3D Multi-Sensor Balance Full-Flash for D1 possible. 4) AI-P Nikkor: All functions except 3D Color Matrix Metering, 3D Multi-Sensor Balance Full-Flash for D1 and autofocus possible. 5) Non-CPU: Usable in [A] or [M] mode. Center-weighted or Sport Metering; Electronic range-finder usable with lens with maximum aperture of f/5.6 or faster. Note: When Non-CPU lenses are used, [A] mode is selected automatically for [P] or [S] mode, also Center-weighted Metering is selected for 3D Color Matrix Metering.
Dimensions	Approx. 157 (W) x 153 (H) 85 (D) mm (6.2 x 6.1 x 3.4 in.)
Weight (without battery)	Approx. 1.1kg (2.5lb.)



Note: The COOLPIX990/950 and D1 are available at regular camera stores.

## Specifications

Image size/Resolution level	3,840 (H) x 3,072 (V) pixels (max. in Fine mode), 1,280 (H) x 1,024 (V) (max. in Quick mode)
CCD	2/3-in. high-density CCD; total number of pixels: 1.4 million (effective 1.34 million)
Lens mount	C-mount
Sensitivity setting	3 levels selectable: Normal, High and Max.
Exposure control	Manual
Auto white balance	Can be preset by selecting a point or rectangle.
Exposure time	1/12,000 to 170 sec.
Shooting mode	Fine (10 types): 3,840 x 3,072 pixels to 640 x 480 pixels. Quick (4 types): 1,280 x 1,024 pixels to 640 x 480 pixels.
Live image size	640 x 512 pixels (12 frames/sec. max.)
Data saving format	BMP, JPEG (3 types compression), or TIF (uncompressed)
Interface	Dedicated interface board (PCI bus)
Dimensions	78 (W) x 136 (H) x 69 (D) mm (3.1 x 5.4 x 2.7 in.) excluding protrusions; Interface cable: approx. 2m (6.6ft.)
Weight (without battery)	Approx. 800g (28.3 oz.) excluding lens
Operating temperature/humidity	Temperature: 0 to + 40°C, Humidity: 10 to 80% (without condensation)
Power supply	Supplied from PCI bus (via dedicated PCI board)

## Recommended operating environment

CPU	Pentium III 500 MHz or faster
RAM	256MB or greater memory space required
Hard disk	100MB or greater memory space required
Mother board	PCI expansion slot space required
VRAM	16MB or greater memory space required
OS*	Windows*98 (Japanese/English ver.)
Display monitor	1,024 dots x 768 lines or greater, 16.7 million or more colors must be reproduced.
Interface	Only dedicated interface board can be used

\*Operation with Windows\*NT is under preparation.  
Note: Some PCs might not work in this environment. If this happens,  
please consult Nikon or its local representatives.

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Specifications and equipment are subject to change without any notice or obligation on the part of the manufacturer. June 2000.



### WARNING

TO ENSURE CORRECT USAGE, READ THE CORRESPONDING MANUALS CAREFULLY BEFORE USE.

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Code No. 2CE-MTJH-1

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# ***Nikon***

## DIGITAL STILL CAMERA DXM1200 for Microscope

Software Instruction Manual



# Preface



Thank you very much for choosing Nikon.

This instruction manual explains installation and use of the ACT-1, the application program for the DXM1200 digital still camera for microscope.

For trouble-free operation, read this manual before using the program.

For information on the DXM1200 system configuration and how to connect the DXM1200 to your PC, see the Hardware Instruction Manual.

- No part of this manual may be reproduced without Nikon's permission.
- The content of this manual is subject to change without notice.
- Nikon has carefully prepared this manual. However, we make no expressed or implied warranty of any kind and assume no responsibility for such errors or omissions.
- Be sure to read the instruction manuals for the microscope and PC you plan to use with the DXM1200.

## ■ Required knowledge:

This manual was prepared for users having entry-level knowledge of Windows. If you encounter terms or tasks you do not understand, refer to your Windows instruction manuals for more information.

## ■ Screens used in this manual:

This manual describes how to perform tasks both in Windows 98 and NT. Screens shown in the manual are those appearing in Windows 98. However, the steps you must follow to perform tasks are nearly identical, regardless of which operating system you use.

Note, however, that some screens may appear or some tasks may be performed differently from those shown or described in the manual, depending on whether you use Windows 98 or NT, and also on the version of your Windows program. Therefore, refer to your Windows instruction manuals for those screens and tasks specific to your version of Windows.

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## 2.8

## Saving the image

You can save the image in one of the two available ways as follows:

- 2.8.1 Saving the image in a specified folder, under a specified filename and in a specified file format
- 2.8.2 Specifying the folder, filename, and file format and then saving the image

### 2.8.1 Saving the image in a specified folder, under a specified filename, and in a specified file format

Specify a folder, filename, and format in advance. This allows you to save the image by simply clicking on the Save button in the tool bar. Use the Save panel to specify a folder and filename; use the Photo panel to specify a file format. You may choose from five different file formats, namely, Jpeg (Fine), Jpeg (Normal), Jpeg (Basic), Bitmap, and Tiff (non-compressed 24 bits).

[Default settings]

Folder: C:\Image  
Filename: Img\_####

#### Supplementary information

##### Filename

The filename you specify in the Save panel can start with any character string. Additionally, you can assign as filename a variable that corresponds to the date, time, and serial number. This provides great freedom in filename assignment.

##### [Filename-matching variables]

###### Variables

\$YYYY	Year (4 digits)	\$DXM	Setting filename
\$YY	Year (2 digits)	###	Three-digit serial number within the same folder
\$MMM	Abbreviation for month (e.g., Jan, Feb)	##	Two-digit serial number within the same folder
\$MM	Month (2 digits)	#	One-digit serial number within the same folder
\$DD	Day (2 digits)		
\$HH	Hour (24 hours)		
\$hh	Hour (12 hours)		
\$mm	Minute		
\$ss	Second		

Example) Specified filename: \$YY\$MM\$DD\_###  
Filename assigned during saving: 000228\_001

##### Caution!

1. Variables must be one-byte characters.
2. Use of \$DXM as a filename is not allowed if the setting file has not been loaded.  
See "Saving and loading a setting file" in Section 3.2 for more information on the setting file.

**Hint** If you use filename-matching variables to assign a filename to your file as shown below, a folder named to indicate the date will be automatically created every day when you save the first image on that day. This allows you to automatically classify images according to the image capture date.

Assigned filename: \$YY\$MM\$DD\Img\_####

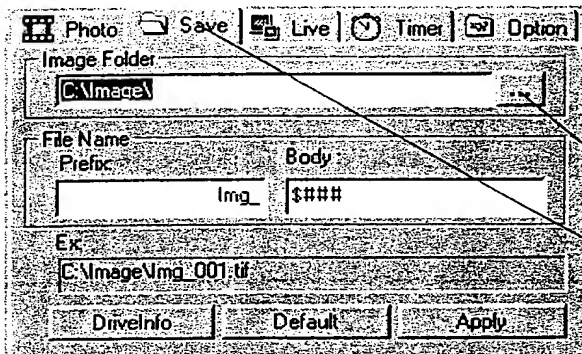
Be sure to add "\" after the filename-matching variables.

When you assign the name "\$YY\$MM\$DD\DXM\Img\_####" to your file, a setting file folder will be created under the date folder, thus allowing you to classify images into even smaller groups.

## Procedure

### 1. Specifying the folder and file names

#### ▼ Save panel



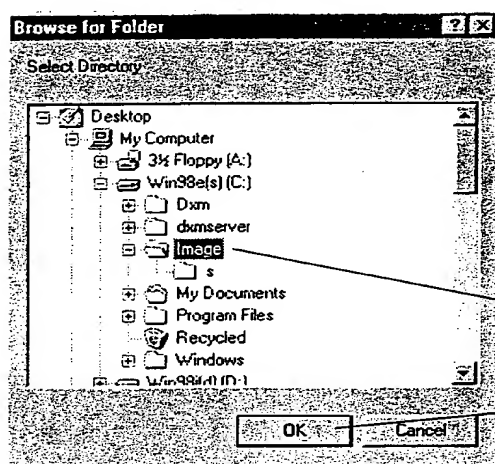
Click on the Save tab if the Save panel is not displayed.

Click on the ... button. At this time, the Browse for Folder dialog box appears.

1. Click here.

Save tab

#### ▼ Browse for Folder dialog box

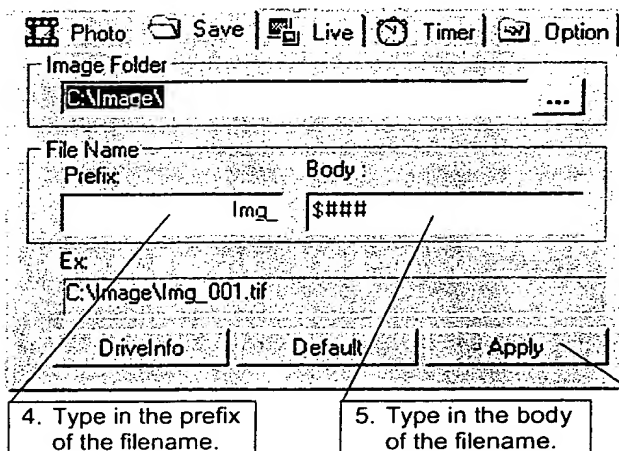


Click on the Image file folder and then on the OK button.

2. Click on the Image file folder.

3. Click on OK.

#### ▼ Type in the filename.



Click on the Prefix text box and type in a character string or variable. Next, click on the Body text box and type in filename-matching variables. See the previous page for filename-matching variables.

Click on the Apply button.

#### Supplementary information

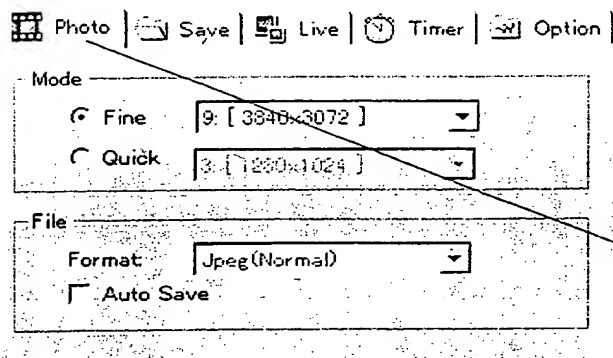
Click on the Default button to set the folder and file names back to their default values.

[Default setting]

C:\Image\Img\_####

## 2. Specifying the file format

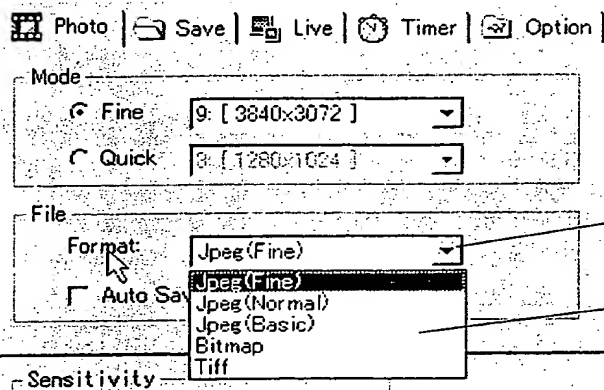
### ▼ Photo panel



Click on the Photo tab if the Photo panel is not displayed.

Photo tab

### ▼ File format list



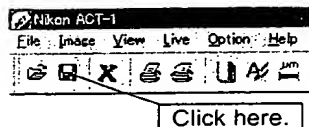
Click on the down-arrow button and select a file format from the drop-down list.

1. Click here.

2. Select a file format.

## 3. Saving the image

### ▼ Save button

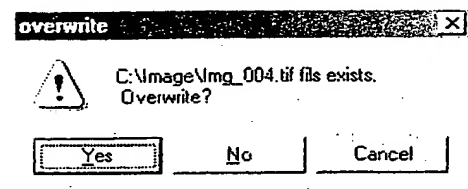


Click on the Save button.

#### Supplementary information

You can also save the image by selecting Save from the File menu.

### ▼ Overwrite dialog box



If you attempt to save a file to a folder under the name that is identical to that of one of the files in that folder, the Overwrite dialog box appears. Click on the Yes button to overwrite the existing file. When you wish to save the file under a different name, click on the No button. In this case, the File Save dialog box appears.

#### Caution!

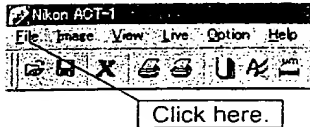
The folder, filename, and file format you selected in the [Save] and [Photo] panels are used if you save an image that has never been saved after image capture. When you use the Save button in the tool bar to save an image that has been saved before, this image will be saved in the same folder, under the same file name, and in the same file format as were used previously.

## 2.8.2 Specifying the folder, filename, and file format and then saving the image

Use Save As in the File menu to save the image.

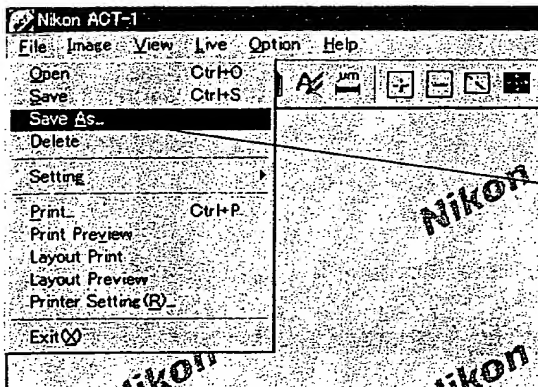
### Procedure

#### ▼ File menu



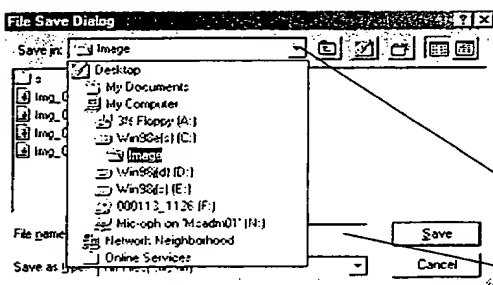
Click on File in the menu bar.  
At this time, the list of File menu commands appears.

#### ▼ File menu command list



Click on Save As.  
At this time, the File Save dialog box appears.

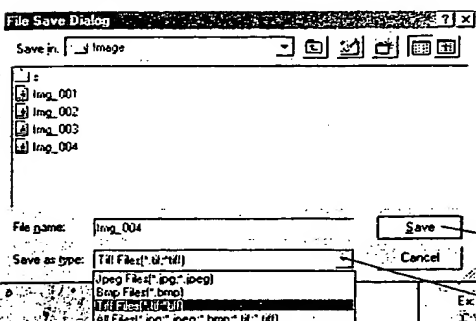
#### ▼ File Save dialog box



Select a location to which to save your file. To do this, click on the down-arrow button at the right side of the Save in box to select a location.

Type in a filename in the File name text box.

#### ▼ File Save dialog box



Click on the down-arrow button at the right side of the Save as type box to select a file format.

Click on the Save button to save the image in the selected folder under the selected filename.

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